**Project Title:** Nebraska*MAP* - A Nebraska Geospatial Data Sharing and Web Services

Network

**Project Sponsor:** Brenda Decker, Nebraska Chief Information Officer

Project Charter Date: February 10, 2009

Initial Project Partners: Nebr. Office of the CIO, Nebr. GIS Council, Nebr. Emergency Management

Agency, Nebr. Dept. of Natural Resources, Nebr. Dept. of Environmental Quality, Nebr. Dept. of Roads, Nebr. Dept. of Agriculture, Nebr. Dept. of Health and Human Services, Nebr. Game and Parks Commission, UNL School of Natural Resources, Douglas County, City of Omaha, Sarpy County, City of Bellevue, City of Gretna, City of LaVista, City of Papillion, City of Springfield,

Lancaster County, City of Lincoln, US Geological Survey

Project Leader: Steve Henderson, Information Technology Administrator, Office of the CIO

Project Manager: Dan Pfeffer, UNL School of Natural Resources, Center for Advanced Land

Management Information Technologies (CALMIT)

Partners Committee:

Initial NebraskaMAP NE CIO: Steve Henderson, Information Technology Manager, Office of the CIO

NE GIS Council/OCIO: Larry Zink, GIS Coordinator

NE Dept. of Natural Resources: Steve Rathie, Senior Analyst

NE Dept. of Roads: Rose Braun, GIS Project Manager

NE Game and Parks Commission: Sudhir Ponnapan, GIS Specialist

NE Health and Human Services System: Karis Bowen, Public Health GIS Analyst

NE Emergency Management Agency: Chad Boshart, GIS Specialist UNL School of Natural Resources: Jim Merchant, CALMIT Director

UNL Libraries: Adonna Fleming, GIS Librarian

Lincoln/Lancaster County: Jeff McReynolds, GIS Program Manager

Omaha/Douglas County: Mike Schonlau, GIS Coordinator Sarpy County GIS Coalition: Eric Herbert, GIS Coordinator

US Geological Survey, James Langtry, USGS Nebraska Geospatial Liaison

Project Vision: The ability to quickly and reliably access and/or share up-to-date data between public agencies (state, local, regional, and federal) is critical in today's e-gov world. This is particularly true with the wide range of applications using GIS/geospatial technology. So much of the power of GIS lies in its ability to integrate and analyze data from multiple sources, based on location or place.

> The project participants envision the development of a Nebraska enterpriselevel, geospatial data sharing network with related data and mapping services. This data sharing network will enable agencies to access, in an automated ondemand mode, up-to-date data from multiple participating (state, local, regional, and federal) public agencies. Because some of the data of interest will be sensitive, security and permission protocols will be integrated into the overall network design. To encourage maximum participation and utility, this data sharing network will have both an open public access/view and a privatesecure access/view component. When fully developed, this data sharing network will support a wide-range of GIS/geospatial applications that require regular, dependable access to up-to-date data from multiple sources. It will additionally provide the technical support to maintain these services and assist public entities to access and build applications based on these enterprise services.

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**Project Background:** This project was initially proposed by the Nebraska GIS Council. The project has also been endorsed by the Nebraska Information Technology Commission as an enterprise "shared services" project. An interagency project exploratory committee recommended that the Office of the CIO become the lead agency to undertake the implementation of this collaborative project and the Nebraska GIS Council endorsed that recommendation. The OCIO agreed to undertake the implementation lead, provided that there was a clear understanding among the project partners that as an agency primarily funded via revolving cash funds, the OCIO would be coming to project partners to provide funding support to assist with the project's initial implementation and on-going support. Initial startup funding for the project has been secured from a mix of funding sources. The development of proposals for sustainable funding will be an objective as project implementation proceeds.

#### **Project Governance:**

The Nebraska Office of the Chief Information Officer (OCIO) is the lead agency for this collaborative, interagency project, and as such has the final responsibility and authority for all project implementation decisions.

The OCIO has entered into a two-year contract with the Center for Advanced Land Management Information Technologies (CALMIT), School of Natural Resources - University of Nebraska-Lincoln, to provide project management and technical leadership and support for this project. James Merchant, CALMIT Director, will serve as the UNL-CALMIT project manager. CALMIT has hired Dan Pfeffer as a GIS Data Portal Manager to provide project management and technical leadership for this project. James Merchant and Dan Pfeffer, in consultation with the OCIO and the Nebraska*MAP* Partners Committee, will be responsible for day-to-day management of project implementation.

To be successful, this project must at its core be both collaborative and innovative in its efforts to meet the business needs of the project partners. To provide an on-going foundation for this collaboration and innovation, an interagency NebraskaMAP Partners Committee will provide on-going guidance and recommendations to the CALMIT project management team, the OCIO, and the Nebraska GIS Council on policy and technical issues and priorities related to the overall project design, implementation and on-going operation. To be effective, the Partners Committee must be representative of the community of users of the network. To provide consistency in representation, membership and voting rights on the Partners Committee will be determined by the Nebraska GIS Council. As additional agencies/entities join with the current partners in supporting and participating in this collaborative effort their representatives may be added to the Partners Committee by the GIS Council.

### **Project Overview:**

The development of an intergovernmental geospatial data sharing network will involve a complex matrix of issues (networking, data exchange standards, data transformation, data documentation, data archiving, security, data sharing agreements, database administration, enterprise administration requirements, operations and maintenance requirements analysis, data viewing and query applications, online data and mapping services, outreach/education, etc.).

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To address this complex matrix of issues, the overall project will be divided into a series of project phases currently projected to extend over at least a two-year startup period. Each phase will be designed to achieve concrete deliverables and will, in and of itself, provide specific advances in interagency data exchange capabilities. Each project phase will also be designed to build on the previous phases and to be adjusted based on the lessons learned in the previous phase. For example, sensitive data will not be available through the data exchange network until the later phases of the project, after security and permission protocols have been developed and tested. As part of this learning and building process, it is expected that the design of the project phases will evolve over time.

Integral to the design of this project is the concept that much of the data to be shared will not necessarily be hosted in a central repository. Much of the data will be hosted on servers operated by the original data-producing agency, but will be accessed through a central GIS portal. This decentralized approach also applies to accessing online GIS mapping and data services provided by remote site project partners. The project design will, however, also include a central data repository and mapping server that will enable agencies not currently providing online mapping and GIS data services to participate in the project by hosting their data on the project's data repository and servers. For some agencies this data repository may also act as a data security backup.

The project will be designed to be friendly and useful to GIS users with a wide range of GIS experience and sophistication. Early efforts will need to focus on putting in place the basic infrastructure and protocols, and as such, may not be especially user-friendly. However, a design goal of the project is to produce an online GIS interface and tool set that will be easily accessible to unsophisticated GIS users. At the same time, the project will also develop a robust functionality that will serve more sophisticated GIS users. Agencies will be able to develop online applications that can execute and rely on background calls and links to the online GIS mapping and data services provided by the network.

While the final project hardware and software architecture has yet to be determined, current plans call for a primary utilization of ESRI GIS suite of software tools. This design decision is based on the fact that the overwhelming majority of GIS users in Nebraska currently rely primarily on ESRI software and that ESRI is the primary GIS software provider nationally. At the same time, there is a commitment to develop the architecture of the system so that it is open to inputting and exporting geospatial maps and data services in formats compatible with a wide range of GIS, OpenGIS and computer-aided design software packages and standards. The establishment of live links to GIS applications developed and running under other non-ESRI GIS software is also being addressed during the design phase of this project.

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Issues that will impact the project's long-term sustainability and use will be researched and proposals developed, as part of the early design and implementation phases of this project. These issues include training for agency developers and network users; marketing and outreach to increase awareness and use of the network; map and data services needed by the partners, and on-going network maintenance, support and enhancement.

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